monocrystalline layer thus closely covering the totality of this platelet.

4. (Amended) Monoatomic and monocrystalline layer according to claim 1, covered with a monocrystalline layer of diamond formed by growth from the monoatomic and monocrystalline layer, the latter acting as matrix.

5. (Amended) Manufacturing process of a monoatomic and monocrystalline layer of diamond type carbon, this process being characterized in that one forms a monocrystalline substrate in SiC terminated by a carbon atomic plane according to a c(2x2) reconstruction, this plane being a plane of carbon-carbon dimers of sp configuration , and in that one carries out at least one annealing of this substrate, this annealing being able to transform the plane of carbon-carbon dimers of sp configuration into a plane of carbon-carbon dimers of sp^3 configuration thus forming a monoatomic and monocrystalline layer of diamond type carbon.

6. (Amended) Process according to claim 5, in which the SiC monocrystalline substrate is prepared from a thin layer of monocrystalline SiC in cubic phase ß-SiC with a face terminated by a layer of Si.

7. (Amended) Process according to claim 5, in which the SiC monocrystalline substrate is prepared from a monocrystalline SiC platelet in hexagonal phase with a face terminated by a layer of Si.

A2

8. (Amended) Process according to claim 6, in which, to obtain the atomic plane of carbon according to the reconstruction c(2x2), an annealing is carried out capable of eliminating the layer of Si.

9. (Amended) Process according to claim 6, in which, to obtain the atomic plane of carbon according to the reconstruction c(2x2), a deposit of hydrocarboned molecules is made on the Si layer followed by cracking of these molecules.

A3 sub B3

11. (Amended) Process according to claim 5, in which, to transform the plane of carbon-carbon dimers of sp configuration into a plane of carbon-carbon dimers of sp^3 configuration, one carries out an annealing or a plurality of successive annealings, at a temperature approximately equal to 1250 C, of the monocrystalline substrate in SiC terminated by the atomic plane of carbon according to the reconstruction c(2x2), the total time of annealing being greater than or about equal to 25 minutes.

Please add the following claims 12 - 14.

A4 SUB B4

12. Process according to claim 7, in which, to obtain to atomic plane of carbon according to the reconstruction c(2x2), an annealing is carried out capable of eliminating the layer of Si.

13. Process according to claim 7, in which, to obtain the atomic plane of carbon according to the reconstruction c(2x2), a deposit of hydrocarboned molecules is made on the layer of Si followed by a cracking of these molecules.

14. Process according to claim 13, in which the hydrocarboned molecules are chosen from the group comprising the molecules of C_2H_4 and the molecules of C_2H_2.